

1 10. A method for performing insertion and deletion operations
2 on elements in a linked data structure, the method comprising
3 the steps of:

4 (a) performing a first set of operation tasks in a first
5 phase for each insertion and deletion operation, the
6 first set of operation tasks operable to effect a
7 first set of element state transitions;

8 (b) developing a second set of operation tasks for each
9 insertion and deletion operation, the second set of
10 operation tasks operable to effect a second set of
11 element state transitions, the second set of element
12 state transitions being distinct from the first set of
13 element state transitions; and

14 (c) performing the second set of operation tasks in a
15 second phase.

1 11. A method for executing operations upon a linked data
2 structure having at least one element, the method comprising the
3 steps of:

- 4 (a) queuing operation tasks in a task queue;
5 (b) receiving the queued operation tasks;
6 (c) performing a first set of operation tasks in a first
7 phase, the first set of operation tasks operable to
8 effect a first set of element state transitions;
9 (d) developing a second set of operation tasks, the second
10 set of operation tasks operable to effect a second set
11 of element state transitions, the second set of
12 element state transitions being distinct from the
13 first set of element state transitions; and
14 (e) performing the second set of operation tasks in a
15 second phase.

1 12. The method of claim 11 further comprising repeating steps
2 (a) through (e).

1 13. A method of inserting an element into a linked data
2 structure comprising the steps of:

3 (a) performing a first set of operation tasks in a first
4 phase, the first set of operation tasks operable to
5 effect a first set of element state transitions
6 including a pre-associated state to a pending insert
7 state transition;

8 (b) developing a second set of operation tasks, the second
9 set of operation tasks operable to effect a second set
10 of element state transitions including a pending
11 insert state to a valid state transition; and

12 (c) performing the second set of operation tasks in a
13 second phase.